

to "metatarsals absent" should have been transferred to page 38 and inserted after the words "project inwards," which occur immediately before "*Cervulus muntjac*," in the eighteenth line from the bottom.

The following papers were read:—

1. Descriptions of thirty-three new or little-known Species of *Sphingidæ* in the Collection of the British Museum. By ARTHUR GARDINER BUTLER, F.L.S., F.Z.S., Assistant, Zoological Department, British Museum.

[Received November 24, 1874.]

(Plates I. & II.)

I have for some time past been carefully working at a complete revision of the Sphingidæ, the results of which labour I hope shortly to have the pleasure of laying before the Society.

Being naturally anxious to secure as many types as possible to our national collection, and knowing that this section of the Lepidoptera is a favourite one, I have thought it best to publish at once characters of the more striking new forms which we possess. This will still leave to my more important paper all the new genera, several new species in the British Museum, two or three that have been kindly placed in my hands by Mr. Lewis, besides others which I hope to obtain through the kindness of Mr. F. Moore*. I also hope to figure the early stages of several species already known to science.

Subfamily MACROGLOSSINÆ.

Genus SATASPES, Moore.

1. SATASPES UNIFORMIS, n. sp.

Closely allied to *S. infernalis*, but differing in the absence of the broad yellow transverse bar at the end of abdomen. Expanse of wings 2 inches 7 lines.

Silhet (*Stainsforth*).

Type, B.M.

We have two examples of this species, and I have seen others.

2. SATASPES VENTRALIS, n. sp.

Allied to the preceding and to *S. infernalis*, but differing from both in the bright bronzy green colour of the basal two thirds of primaries; abdomen black-brown, with a dorsal series of pale yellow squamose spots on the posterior area of each segment excepting the basal one; the four apical segments below bright sulphur-yellow. Expanse of wings 2 inches 7 lines.

Hong-Kong (*Bowring*), Silhet (*Stainsforth*).

Type, B.M.

* Since the above paper was read, Mr. Moore has most generously placed the whole of his fine collection at my disposal, thus giving me the opportunity of identifying several of his and Mr. Walker's species; he has also lent me several most valuable figures of larvæ, which have been of the greatest use to me.

Genus MACROGLOSSA, Ochsenheimer.

3. MACROGLOSSA FERVENS, n. sp. (Plate I. fig. 3.)

Primaries above red-brown; basal two fifths chocolate-brown; a transverse nebulous wavy discal bar of the same colour; two transverse subapical blackish spots; secondaries bright ferruginous, costa testaceous; outer margin dusky: head, thorax, and three basal segments olivaceous; these segments orange-tawny at the sides, edged with dark brown; terminal segments dark brown; last segment edged behind with an unbroken transverse line of snow-white scales; a lateral ochre-tipped black tuft; anal tuft dark brown: wings below bright ferruginous, bright ochreous at the base, crossed by several indistinct darker lines; outer margin rather broadly olive-brown; palpi, pectus, and basal segments of abdomen cream-coloured; remaining segments red-brown; central segment with a small lateral white tuft; two terminal segments with lateral ochre-tipped blackish tufts; anal tuft red-brown. Expanse of wings 1 inch 7 lines.

Canara (*Ward*).

Type, B.M.

Allied to *M. gyrans* and *M. approximata* of Walker; its position will be between the latter and *M. gilia* of Walker (*walkeri*, Butl.).

4. MACROGLOSSA PROXIMA, n. sp. (Plate I. fig. 1.)

Primaries above dark chocolate-brown, crossed by two diffused sericeous bars; a wavy dark-brown transverse streak just beyond the cell; secondaries with basal half sordid ochreous, impinged upon at base by two diverging black basal dashes, and diffused externally; costa broadly bright stramineous, outer margin broadly dark brown: head and abdomen smoky brown; thorax red-brown; sides of abdomen rusty brown, three basal segments with lateral quadrate spots, black internally, broadly orange externally; the three penultimate segments with lateral ochre-tipped brown tufts; last segment but one white-edged externally; anal tuft dark brown, with a broad terminal orange bar: wings below red-brown, ochraceous at base; secondaries with an orange abdominal streak; palpi below sordid white; pectus sordid testaceous, brownish at the sides; legs testaceous, irrorated with brown, the tibiæ of last pair fringed with ferruginous; two basal segments of abdomen ochreous; remaining segments and anal tuft ferruginous internally, dull ochreous externally. Expanse of wings 2 inches 5 lines.

Canara (*Ward*), Ceylon (*Templeton*).

Type, B.M.

Some varieties of *M. passalus** nearly resemble this species on the upper surface, but differ in having four distinct transverse blackish lines across the primaries, a much less prominent orange terminal bar to the anal tuft, and an entirely different coloration on the under surface of the abdomen.

* It is almost certain that the latter are distinct from *M. passalus*, as the typical Chinese form is altogether redder in hue than its Indian representative; but at present I have not sufficient examples to enable me to separate them with certainty.

5. *MACROGLOSSA OBSCURA* (Horsfield, MS.). (Plate I. fig. 2.)

Allied to *M. passalus*, but duller in colouring, the primaries more acute and longer, the transverse lines less distinct, the secondaries with a broader, more defined, more irregular, and paler central orange band; the three basal segments of abdomen edged laterally with testaceous instead of orange; secondaries below with a sharply defined internal subtriangular patch, pale yellow at base, but becoming gradually orange externally. Expanse of wings 2 inches 7 lines.

Java (*Horsfield*).

Type, B.M.

6. *MACROGLOSSA TROCHILOIDES*, n. sp.

Closely allied to *M. trochilus*, but altogether brighter in colouring, the primaries much darker, the secondaries with well-defined central orange band; outer margin distinct and black. Expanse of wings 1 inch 5 lines.

Sierra Leone (*Foxcroft*).

Type, B.M.

This is the Western-African form of *M. trochilus*.

7. *MACROGLOSSA NOX*, Newman. (Plate I. fig. 6.)

Male. Primaries above black-brown, bronzy greenish in some lights, base and three indistinct wavy bars black; secondaries with the base and outer margin broadly black, central area very dark grey, silvery greenish in certain lights: body ashy black, with a lateral bright steel-blue lustre when the tail is turned to the light; basal and three terminal segments with large lateral black spots; all the segments with small lateral white-tipped black tufts, penultimate segment white-edged; anal tuft black, pale brown at the base, and white at the tip: wings below black-brown, with bronzy greenish reflections, whitish at base; secondaries shot with pale steel-blue towards base, abdominal area bluish white: body smoky brown, thorax paler; prothorax and palpi sordid white. Expanse of wings 2 inches 9 lines.

Rockingham Bay (*Macgillivray*).

Type, B.M.

Described by Mr. Walker as the female of *M. micacea*.

Genus *CALLIOMMA*, Walker.8. *CALLIOMMA LUTESCENS*, n. sp. (Plate I. fig. 5.)

Primaries above clay-colour, transversely and irregularly spotted with dark grey in wavy series; an interno-basal dark grey streak: two transverse, angulated, subbasal whitish streaks, beginning on costa and terminating at first median branch, separated by a grey streak, and bounded externally by a zigzag oblique grey bar from costa to inner margin; a subtriangular, whitish, central costal spot, impinged upon by an irregular discocellular silver marking; a whitish costal patch immediately beyond it, interrupted by indistinct grey lituræ; apex somewhat pale; outer margin with a large, subapical, marginal, lunate, chocolate-coloured patch, bordered internally by a pearly greyish nebula; secondaries orange, shining and whitish on costa, but gradually deepening in tint to abdominal margin; outer

margin broadly but diffusely ferruginous, irregularly blotched with black, and bounded internally by an undulated blackish line; an elongate, whitish marginal spot near anal angle: body pale clay-coloured; the pterygodes red-brown, tipped with whitish and dark brown on the shoulders; second, third, and fourth segments of abdomen with more or less defined, inverted, V-shaped markings in the middle: wings below altogether paler; primaries with discoidal area dull tawny, internal margin stramineous, external half crossed by transverse series of brown spots, outer margin rather broadly and irregularly pale brown; secondaries whitish clay-colour, a spot within cell, and five undulated, partly interrupted, transverse lines (the outermost one indistinct and confounded with a sprinkling of scales of the same colour on external area) brown: body clay-coloured, palpi and thorax deeper-coloured; abdomen with two ventral series of central grey spots. Expanse of wings 2 inches 9 lines.

Haiti (*Tweedie*).

Type, B.M.

Allied to *C. parce*.

Subfamily CHÆROCAMPINÆ.

Genus PANACRA.

9. PANACRA METALLICA, n. sp.

Allied to *P. mydon*. Differs in its greater size, longer and more acute primaries, with the outer margin well excavated below the apex; apical half much yellower; transverse lines more oblique, not undulated, the central ones very distinct, four in number, angulated just before reaching the costa; secondaries longer, more acute at the apex, the ochreous streak less diffused; body longer, thorax more uniform in colouring, abdomen with the lateral golden streak broader, more distinct; primaries below brown, with the costa and outer margin, a discocellular point, several lituræ in a discal series, one or two more subapical, and a squamose, dentated, subanal patch bright ochreous; disk also varied with red, and clouded at apex and centre with brown; a submarginal series of markings, the two nearest apex white and lunate, one at external angle black and white, ovate, the intermediate ones forming a semi-connected irregular grey streak; secondaries brown, with the costa, outer margin, a spot at anal angle, and a submarginal anal streak bright ochreous, irrorated with red; a bright yellow discocellular point; two irregular, ill-defined, central dark brown lines; disk plumbaginous: body below creamy, speckled with ferruginous; abdomen with a lateral series of black points. Expanse of wings 2 inches 9 lines.

North India (*Parry*).

Type, B.M.

This is labelled by Boisduval with his MS. name of *P. mydon*; it is not, however, Walker's type.

Genus DAPHNIS, Hübner.

10. DAPHNIS PALLESCENS, n. sp.

Allied to *D. hypothous*, same general pattern; primaries with the

pale rosy whitish bands broader, less distinctly white-edged; the dark markings paler, more olive-tinted; external angle slate-coloured; apical white spot smaller; secondaries whity brown, with a central dark-grey nebula leaving a distinct postmedian in-arched line of the ground-colour; beyond and bounding this is a broad, submarginal, purplish-brown band; outer margin broadly pale brown, darker externally (the submarginal band and the marginal border both narrowest at anal angle): body, with the collar, base, and sides of abdomen whitish; pterygodes olive, head and thorax grey; dorsum of abdomen greyish brown; antennæ pale ochreous: wings below much like *D. hypothous*, but paler. Expanse of wings 3 inches 7 lines.

Queensland (*Janson*).

Type, B.M.

Genus PERGESA, Walker.

11. PERGESA AURIFERA, n. sp.

Primaries olive-green, base transversely spotted with black; a violet-centred black spot at end of cell, and from it to inner margin a nebulous dusky bar; disk more or less clouded with reddish, crossed obliquely from costa to inner margin by three parallel rows of black spots; three large costal subapical black spots; outer margin pearly, irrorated with black; fringe dull ochraceous; secondaries black-brown, costal area pale brown; an anal, submarginal, cunciform, dull ochreous fasciole: body olive-green, head margined with whitish; pterygodes grey, black-bordered; abdomen with two longitudinal series of black dots, a lateral golden-yellow streak from second segment, and a broad, undulated, golden-yellow lateral border, each undulation with a central black dot: wings below nearly as in *P. castor*, but the black lines and dots heavier. Expanse of wings 3 inches 5 lines.

Sikkim (*Whitely*).

Type, B.M.

Var. Primaries and body clay-colour, with a slight greenish tinge.

North India (*Janson*).

B.M.

Allied to *P. castor*, but differing (besides colour-characters) in the much more acute falcate form and greater width of the primaries.

Genus CHÆROCAMPA, Duponchel.

12. CHÆROCAMPA MACROMERA, n. sp.

Nearly allied to *C. elpenor*, but much larger, the primaries duller in colour, with the outer margin more broadly rosy lilacine; secondaries with more than half the wing rosy; body with the dorsal rosy line less defined; wings below with the costal ochraceous border duller, much narrower, only clearly represented towards base; transverse band converted into two narrow parallel lines. Expanse of wings 3 inches 4 lines.

Silhet (*Macgillivray*), North India (*Stevens*).

Type, B.M.

Noted by Mr. Walker as a variety of *C. elpenor*; I am satisfied, however (from the fact that the more nearly allied Japanese species is now proved by breeding to be distinct), that it is a different species.

13. *CHÆROCAMPA GRACILIS*, n. sp. (Plate II. fig. 2.)

Nearly allied to *C. eson*, about one third smaller; the wings and abdomen, as compared with the size of the insect, longer; the primaries decidedly less distinctly streaked, the streaks also narrower; secondaries blacker at base, much whiter at anal angle; lateral streaks of thorax much whiter; abdomen very indistinctly streaked, not showing the two broad longitudinal central brown bands; wings below less irrorated with brown, central oblique lines of primaries not extending beyond the middle of the wing from costa; abdomen below not showing the lateral blackish points. Expanse of wings 3 inches to 3 inches 2 lines.

Congo (*Richardson*), Sierra Leone (*Morgan*). Type, B.M.
We have four examples of this species.

14. *CHÆROCAMPA ELEGANS*, n. sp. (Plate II. fig. 1.)

♂ ♀. Allied to the preceding species (with which it agrees in size) and to *C. theylia*. The male may at once be distinguished from both by its much more acute and narrow primaries; and both sexes may be distinguished by having a distinct, whitish brown, longitudinal band from the back of the head to the end of the abdomen, the pterygodes more brightly coloured, and the anal margin of secondaries less excavated. In size it exceeds *C. theylia* by about one half; and the white nebula at anal angle of secondaries is more vivid; on the underside of primaries the terminal grey border is well marked. Expanse of wings, ♂ 2 inches 9 lines, ♀ 3 inches 1 line.

♂, Java (*Horsfield*); ♀, Silhet (*Stainsforth*). Type, B.M.

Mr. Walker says that "*C. eson* in Asia is very generally of small size, and in Africa of large size, but the latter variety also occurs in Asia," *C. eson* and *C. gracilis* being the large African forms, *C. elegans* the large Asiatic and *C. theylia* the small Asiatic form.

15. *CHÆROCAMPA ARGENTATA*, n. sp. (Plate II. fig. 3.)

General form and markings of *C. oldenlandiæ*, wings shorter, inner margin of primaries much more excavated, all the brown markings much darker, the silver lines more vivid, the line down the centre of pterygodes and the lateral streaks of abdomen vivid golden sprinkled with reddish scales; primaries more silvery at base, the pale oblique bar of primaries slightly broader, the outer margin somewhat plumbaginous; secondaries darker, the pale streak redder in tint: wings below altogether redder, the markings darker, the outer margin more plumbaginous; abdomen with a white ventral streak. Expanse of wings 2 inches 10 lines.

Moreton Bay (*Gibbon*), N. Australia (*Elsey*), Sydney (*Lambert*), Australia (*Stevenson*). Type, B.M.

This is the Australian representative of *C. oldenlandiæ*; it is undoubtedly a distinct species, but may be an insect described by Mr. Walker of which I cannot find the type. A third species also exists in North Australia; but our example is in such a poor condition that I could not venture to make a type of it.

16. *CHÆROCAMPA VIRESCENS*, n. sp.

Form, size, and general appearance of *C. crotonis*, but primaries greener, with only the outer, central, broader streak (running from inner margin to apex) distinct, the other lines scarcely visible; yellow spots of secondaries paler, outer margin greener; body greener, without the longitudinal central whitish streak; wings below redder, primaries without the postmedian oblique blackish line; the sub-apical spots smaller; discocellular spot white; outer margin broadly bordered with reddish grey; base more broadly suffused with blackish; secondaries with central lines very indistinct, reddish; body below irrorated with ferruginous, abdomen with a longitudinal pink streak. Expanse of wings 3 inches 2 lines.

Bogota (*Stevens*).

Type, B.M.

Intermediate in some respects between *C. crotonis* and *C. aristor*.

17. *CHÆROCAMPA DOCILIS*, n. sp.

♂. Allied to *C. amadis*; wings above dull green; primaries with an interno-basal black spot; a minute discocellular black spot; a basi-subcostal spot, a transverse oblique streak crossing the middle of discoidal cell, a nebula just beyond discoidal cell, a transverse subapical litura, an oblique streak (edged internally with silver-grey), and a submarginal row of spots, all olive-brown; a zigzag submarginal greenish-grey line, margined internally with silver-grey; outer margin from zigzag line silver-grey, irrorated with blackish atoms; fringe pinkish, except at external angle, where it is cream-coloured; secondaries with the basal three fifths and a broad submarginal band tapering to and not extending beyond first median branch, black; abdominal area yellowish; head olive-green, white brown at the sides; thorax olive-green, with a broad central and narrower lateral grey streaks; abdomen clay-coloured, pinkish at the sides, irrorated with black atoms; a double central series of blackish points, as in *C. nitidula*; basal segment olive-green, greyish in the centre, with a large lateral black spot; antennæ cream-coloured; wings below brick-red, irrorated with grey, outer margin irregularly sericeous white brown; a discal series of black points; primaries with the costa yellow; a blackish subcuneiform patch from base through centre of cell to just beyond discocellulars; two subcostal black spots near apex; secondaries with the costa yellowish, abdominal area whitish; body pink, irrorated with blackish atoms; abdomen with a lateral row of black points; thorax at base of wings golden-yellow; legs pale olivaceous, tibiæ and tarsi of front pair white. Expanse of wings 3 inches 11 lines.

Ecuador (*Buckley*).

Type, B.M.

This is a softly coloured and beautiful species.

18. *CHÆROCAMPA HAITENSIS*, n. sp.

♂ ♀. Allied to *C. nechus*; differs in having the external area of primaries browner, the pale-brown patch towards external angle broader; the sulphur-yellow spots of secondaries smaller; the lateral

yellow streak of abdomen replaced by a beautifully shaded, apparently overlapping, series of pyriform yellow and orange spots; wings below altogether redder, the dark areas more restricted and paler, the yellowish markings less vivid, and varied with red; palpi, prothorax, and sides of abdomen irrorated with red. Expanse of wings 3 inches 4 to 6 lines.

Haiti (*Tweedie*).

Type, B.M.

Easily distinguished at a glance by the colouring of the abdomen.

19. *CHÆROCAMPA IGNEA*, n. sp. (Plate I. fig. 4.)

♀. Allied to *C. scrofa*, but primaries and body dull reddish chocolate instead of blackish grey; primaries with all the markings less prominent; wings below bright reddish all over instead of only on basal half of primaries, the outer margins broadly clouded with brownish; body red-brown instead of greyish; palpi and legs varied with white, as in *C. scrofa*. Expanse of wings 2 inches 8 lines.

Moreton Bay (*Gibbons*).

Type, B.M.

Although nearly allied to *C. scrofa*, I believe that this species will prove to be constant and therefore distinct; I consider the most important difference to be the coloration of the under surface of the primaries.

Genus *AMBULYX*, Walker.

20. *AMBULYX MOOREI* (Boisduval, MS.).

♀. Primaries above dark clay-colour; outer margin broadly brownish, bordered internally by a diffused ochreous line deeper externally than internally, becoming silver-grey towards apex, and limited on internal margin by a brown spot (decreasing upwards, excavated on both sides), and on second and third median branches by indistinct brown dots; a nebulous, oblique, pale brownish sub-apical streak; several very ill-defined, sinuated, transverse, ochreous lines across and beyond the cell; a geminate, grey, white-pupilled discocellular spot; secondaries testaceous, clouded with clay-colour, especially towards anal angle; costa and abdominal margin creamy; a greyish streak across the end of the cell; an arched discal series of six red-brown lunate spots; outer margin red-brown: body bright clay-coloured; crest, metathorax, and a bar across pterygodes red-brown: wings below ochreous, becoming tawny externally; primaries with the outer margin grey, with a white external and brown internal line; an indistinct discocellular brown litura; several very indistinct brownish transverse lines beyond the cell; secondaries with the outer margin brown; an indistinct discocellular litura and several ill-defined spots beyond the cell pale brown; body below bright ochreous, becoming tawny towards head. Expanse of wings 3 inches 11 lines.

Java (*Horsfield*).

Type, B.M.

Most like *A. strigilis* in appearance.

21. *AMBULYX MARGINATA*, n. sp.

Primaries above whity brown, with a pink tinge; base, two

large spots placed obliquely to each other (one costal, the other interno-basal), encircled at a little distance by a slender line, a very oblique transverse line from middle of costa to basal third of inner margin, a large oval spot near base of first median interspace, three central costal spots (nearly equidistant), a large, subquadrate, subapical costal spot, the outer margin broadly, from subapical margin to external fourth of inner margin, a discal nebula on second median interspace, and several indistinct, lunated, transverse lines, olive-brown; secondaries rosy, costa and base cream-coloured; abdominal margin broadly creamy, tinted with pink; outer margin, from subcostal nervure to anal angle, broadly chocolate-brown; two central, transverse, lunulated, grey lines and a discal series of grey dots; body as in *A. gannascus*: wings below altogether yellower than above; primaries with the costa, especially at apex, ochreous; all the large spots, excepting the subapical costal one, missing, the latter paler than above; transverse streaks more distinct; outer margin broadly bordered with silver-grey; secondaries pale clay-coloured; border, lines, and spots as above, but very pale; body as in *A. gannascus*. Expanse of wings 4 inches 7 lines.

Rio Janeiro (*Stevens*).

Type, B.M.

Subfamily SPHINGINÆ.

Genus AMPHONYX, Poey.

22. AMPHONYX RIVULARIS, n. sp.

♂. Like a large example of *A. duponchel* ♂, but less green in colour, and with a broader transparent area in the secondaries. Expanse of wings 5 inches.

♀. Like the female of *A. duponchel*, but slightly larger, the primaries green, not varied with mealy-white patches, and with all the markings distinct as in *A. antæus* ♀. Expanse of wings 6 inches 3 lines.

♂ ♀, — ?; ♂, *Ega* (*Bates*); ♂ var., — ? (abdomen reddish).

Type, B.M.

I have little doubt that this is the Upper-Amazon representative of *A. antæus*, as *A. medor** is the Mexican. Herr Julius Flohr, of Hamburg (who has collected much in Mexico), tells me that he has a female example of the latter species measuring 9 inches in expanse of wing; our female only measures 7 inches.

Genus PROTOPARCE †, Burmeister.

23. PROTOPARCE FULVINOTATA, n. sp.

Primaries above very similar to *P. solani*, but lighter, the subapical pale patch less dusky and broader, and all the transverse dark lines

* Cramer's locality is (almost certainly) incorrect; we possess both sexes of his species, distinguished at a glance by its blackish coloration.

† I adopt this name, rather than Mr. Grote's emendation of *Macrosila*, as being one year prior to that genus as first characterized, its type also being indicated as *P. rustica*. For *Macrosila*, Walker, I have retained *M. incisa*, Walker, as type.

less oblique towards inner margin; secondaries bright ochreous, a subbasal lunule, a broad, transverse, central streak, and a broad marginal border dark brown: body—head chocolate-brown; thorax ferruginous, with posterior black border; abdomen red-brown, irrorated with grey, and spotted at the sides with elongated fulvous spots or litureæ; antennæ whitish above, dull ochraceous below: wings below brown, whitish towards base; fringe white-spotted; internobasal area of primaries ochreous; abdominal area of secondaries whitish; body below sordid white. Expanse of wings 4 inches 2 lines.

South Africa.

Type, B.M.

24. *PROTOPARCE CONTRACTA*, n. sp.

♂. Allied to *P. lucetius*; primaries narrower, secondaries shorter, colouring slightly paler, the oblique lines of primaries much less irregular; submarginal line and apical patch much whiter; secondaries with the second brown band running independently across the wing instead of losing itself in the third band, marginal band narrower; orange lateral spots on the body much more rounded, a dorsal blackish line; mesothorax not black; primaries below with the transverse lines more oblique and better defined; secondaries with the transverse lines wider apart, more dentated; marginal border much narrower. Expanse of wings 4 inches 1 line.

Rio Janeiro (*Stevens*).

Type, B.M.

Confounded with *P. carolina* by Mr. Walker.

Genus *DILUDIA*, Grote and Robinson.

25. *DILUDIA BREVIMARGO*, n. sp.

♀. Closely allied to *D. florestan*, but differing as follows:—Smaller; primaries with the outer margin much shorter, more rounded at apex; secondaries also shorter, outer margin excavated above anal angle: in colours it differs in having the primaries much greyer in tint, the transverse bands greener, the marginal black lines of these bands more distinct and more strongly dentated; the black bars on median branches less strongly defined; the apical black-edged area narrower, and very indistinctly sinuated externally; secondaries with the inner transverse black bar very indistinct: body with the head and thorax greenish grey, abdomen less red; marginal black strigæ less strongly defined; wings below darker than in *D. florestan*, transverse bars less distinct and more irregular, the two inner bars of secondaries coalescing. Expanse of wings 4 inches 6 lines.

Brazil (*Becker*).

B.M.

26. *DILUDIA RUFESCENS*, n. sp.

♀. Allied to *D. lichenea*, primaries altogether redder; the outer margin shorter, more arched; central band much better defined, its outer edge much more dentated; apical patch more elongated; submarginal white streak much more deeply sinuated; secondaries shorter, pale grey, with two indistinct central whitish bars: body more uniform in colouring, head and collar rather redder; lateral

abdominal black strigæ less defined : wings below altogether paler than *D. lichenea*, the transverse bars less defined, only two on secondaries. Expanse of wings 5 inches 3 lines.

Rio (*Stevens*).

Type, B.M.

Placed by Mr. Walker with *D. lichenea* and described in his first paragraph as the female of that species, the true female being described more briefly in the second paragraph.

27. *DILUDIA MELANOMERA*, n. sp.

♂. Wings slightly more elongate, altogether much darker ; the apical patch black, with a zigzag grey line running longitudinally through it ; median band externally bordered and spotted at end of cell with black ; submarginal spots black instead of dark grey ; secondaries black-brown, a slight double nebulous streak from anal angle : body much darker, head and prothorax blackish ; abdomen with lateral bars more continuous and blacker : wings below also darker, transverse lines much darker, more dentate ; body below rather paler. Expanse of wings 4 inches 10 lines.

Silhet (*Dale*).

Type, B.M.

This appears to be the northern form of *D. discistriga*.

28. *DILUDIA VATES*, n. sp.

Primaries above light grey, two or three whitish spots on basal half of costa and at centre of discoidal cell, also a double angulated discal series of brownish-edged lunate spots ; a small oblique spot towards middle of costa, a less oblique litura crossing the cell near its termination, two parallel streaks within interspaces, a small lunule beneath them, an irregular streak margining the apical patch, and a series of spots at the end of the nervures upon the fringe black-brown ; an indistinct discal series of brown dots ; fringe partly white ; secondaries smoky brown, abdominal area paler ; costa testaceous, anal angle grey, crossed by two brown lunules ; thorax and head grey ; pterygodes margined externally by a black streak ; meta-thorax margined behind by a transverse angulated black streak ; abdomen pale brown, with a brownish lateral streak and a dorsal black line : wings below whitish brown, external area and a discal bar slightly darker brown ; fringe spotted with blackish ; palpi varied with white, pectus white ; abdomen whitish brown ; tarsi of front pair of legs blackish. Expanse of wings 3 inches 6 lines to 4 inches.

Ceylon (*Templeton*) ; Madras.

Type, B.M.

Var. Slightly darker, a geminate white spot near external angle of primaries. Expanse of wings 4 inches 4-9 lines.

Silhet (*Sowerby*), Moulmein (*Clerck*).

Type, B.M.

Our example from Madras has a label on it, bearing the MS. name *Sphinx vates*. The species is nearly allied to *D. incerta* of Walker, from China ; it was confounded, in the collection, with *D. discistriga*.

29. *DILUDIA NATALENSIS* n. sp.

Primaries above snow-white, varied with grey, two transverse

irregular brownish lines crossing the middle of cell; a broad greyish patch, beginning just before end of cell, bounded internally by a blackish streak, and bounded and crossed externally by two lunulated waved transverse lines running from costa to inner margin; two similar discal lines, becoming black below third median branch; a very irregular black streak bounding the apical patch, and immediately below it two interrupted blackish lunules; a central submarginal bifid black-edged grey spot; an ill-defined submarginal streak; a white discocellular spot; outer margin black-spotted; secondaries smoky brown; abdominal area testaceous; outer margin dark brown, broadest at apex; a pyriform dark brown streak on abdominal area, continued laterally as an indistinct brown streak crossing the centre of wing; anal angle white, interrupted by two marginal semicircular blackish spots and an irregular submarginal grey streak: thorax pale grey, collar dark grey behind, pterygodes bordered externally with black; metathorax margined behind with blackish; abdomen whity brown, with lateral oblique dark grey and white strigæ on each segment: wings below tinted with ferruginous, a common lunulate and waved discal streak; primaries with a black costal streak just beyond the end of cell; an interrupted submacular brown streak just beyond the discal streak, an oblique white spot at apex; fringe spotted with brown; secondaries crossed above the middle by an oblique diffused brown bar; a brown streak at apex and anal angle, fringe spotted with ferruginous; body whity brown, palpi and pectus white. Expanse of wings 5 inches.

Port Natal (*Gueinzius*).

Type, B.M.

This species somewhat resembles the preceding in general appearance; but the outer margin of primaries, instead of being convex, is distinctly excavated above external angle. Our example bears a label by the collector bearing the following inscription:—" *Acherontia spei* ♂. Only two ♀ specimens taken in 1857 (one of them lost). I have not observed that peculiar chirping noise; had they chirped I am sure I would have observed. Query, Does the ♂ only chirp? and the ♀ not?—*W. Gzs.*"

I have not thought the MS. name applicable, and therefore have not used it.

Genus NEPHELE, Hübner.

30. NEPHELE ROSÆ, n. sp.

Wings above olive-green; primaries with the base, a broad transverse band leaving a large quadrate costal spot, a small spot between the latter and the base upon inner margin, and an irregular band beginning broad at apex, undulated and narrowed externally to upper radial, then abruptly and deeply excavated to external angle, its inner edge straight and with a pale border, all dark brown; a postmedian squamose snow-white streak bounding the broad subcentral transverse band; a snow-white point on lower discocellular, and two at base; secondaries with the costal area testaceous; apical half of wing dark brown; fringe testaceous: body olive-green, head greyish brown; abdomen paler at the sides, with five transverse

black bars, the first three broadly interrupted in the middle; anal tuft red-brown; antennæ testaceous: wings below altogether paler and browner than above, the transverse white streak and basal points of primaries absent, discocellular point smaller, secondaries crossed by three central brown lines; body below sordid whitish, pectus greyish. Expanse of wings 4 inches 1 line.

“Boma, Feb. 1873” (*Monteiro*).

Type, B.M.

This handsome new species is allied to *N. anopion*; it was the only example taken, and was, I believe, captured by Mrs. Monteiro, after whom I have named it.

31. *NEPHELE VARIEGATA*, n. sp.

Primaries—base of wings grey-brown, varied with clay-colour, with two discoidal whitish dots, bounded externally by an irregular transverse grey-clouded whitish band, divided through the centre by a blackish line; a broad central oblique greyish brown band, varied with clay-colour, bounded on each side by two irregular black lines and constricted in the middle; three silver spots at end of cell; immediately beyond the central band is a narrower band, whitish at costa, otherwise grey, intersected and bounded externally by lunated blackish lines; discal area ochreous towards costa, otherwise dark brown varied with clay-colour, a very irregular undulated submarginal blackish line bordered externally by a grey line; outer margin reddish brown; secondaries olive-green, outer margin (except at anal angle) with a broad brown border tapering from costa to submedian nervure; fringe testaceous: body dark brown, pterygodes tipped with pale yellow scales; abdomen with six broad transverse lateral black bars separated by pale yellow lines; primaries below brown, dull olivaceous at base, crossed at the middle by an oblique nebulous dark brown bar, disk crossed by two waved undulated dark brown lines, and an arched undulated submarginal line; a white discocellular point; secondaries pale olivaceous, with the outer margin brown, three central undulated and a submarginal irregular dark brown lines; body greyish brown, palpi paler. Expanse of wings 3 inches 7 lines.

Congo (*Richardson*), Africa (*Milne*).

Type, B.M.

This is *Z. peneus* (part.) of Walker, *Z. funebris*, Bois. (nec Fabricius).

Subfamily SMERINTHINÆ.

Genus *LEUCOPHLEBIA*, Westwood.

32. *LEUCOPHLEBIA ROSACEA*, n. sp. (Plate II. fig. 4.)

♂. Allied to *L. lineata*; primaries dull glossy rose-colour, a broad ochreous streak parallel to costa, broadest opposite external angle, and acutely pointed at each end; an oblique submedian basal ochreous streak, median branches silver; fringe golden; secondaries deep ochreous, fringe testaceous; body—palpi and vertex chocolate-brown, back of head and sides of thorax pale sordid rose-colour; centre of thorax chocolate-brown; abdomen pale brown; antennæ cream-coloured above, ferruginous below; wings below as in *L.*

lineata, but altogether deeper in colour, and with a slender marginal plum-coloured line; body and legs below chocolate-brown, abdomen with a rosy tint. Expanse of wings 2 inches 7 lines.

Coimbatore (*Walhouse*).

Type, B.M.

33. *LEUCOPHLEBIA BICOLOR*, n. sp. (Plate II. fig. 5.)

♂. Primaries rosy, a broad central longitudinal tapering stramineous streak from base to apex, nearly straight in front, arched behind, and having three processes along the median branches; fringe stramineous; secondaries ochreous; costa and abdominal margin stramineous, outer margin rosy, fringe stramineous; thorax dull rosy, deeper in front than behind, with a central ochreous spot: body whitish ochraceous, rosy at the margins; antennæ above creamy whitish, below brownish: wings below stramineous; primaries with discoidal area ochreous; apical costa abruptly and broadly rosy, outer margin with a broad pale rosy border, tapering to apex; secondaries with costa and outer margin pale rosy; body dull pale ochraceous, with a rosy tint, gradually becoming more intense to the head; palpi dull rosy; legs creamy above, rosy below. Expanse of wings 2 inches 2-3 lines.

Almorah (*Boys*), N. India.

Type, B.M.

Allied to *L. emittens*, but coloured more like *L. lineata*.

EXPLANATION OF PLATES I. & II.

PLATE I.

- Fig. 1. *Macroglossa proxima*, p. 4.
 2. — *obscura*, p. 5.
 3. — *fervens*, p. 4.
 4. *Chærocampa ignea*, p. 10.
 5. *Calliomma lutescens*, p. 5.
 6. *Macroglossa nox*, p. 5.

PLATE II.

- Fig. 1. *Chærocampa elegans*, p. 8.
 2. — *gracilis*, p. 8.
 3. — *argentata*, p. 8.
 4. *Leucophlebia rosacea*, p. 15.
 5. — *bicolor*, p. 16.

2. Corrections of and Additions to "Raptorial Birds of Northwestern India." By ANDREW ANDERSON, F.Z.S.

[Received November 30, 1874.]

(Plate III.)

Since the publication of my last paper*, my knowledge of this subject generally has been greatly advanced, not only by further research, but by the acquisition of European and African specimens of some of the species concerning which comparatively little was known

* P. Z. S. 1872, p. 619.